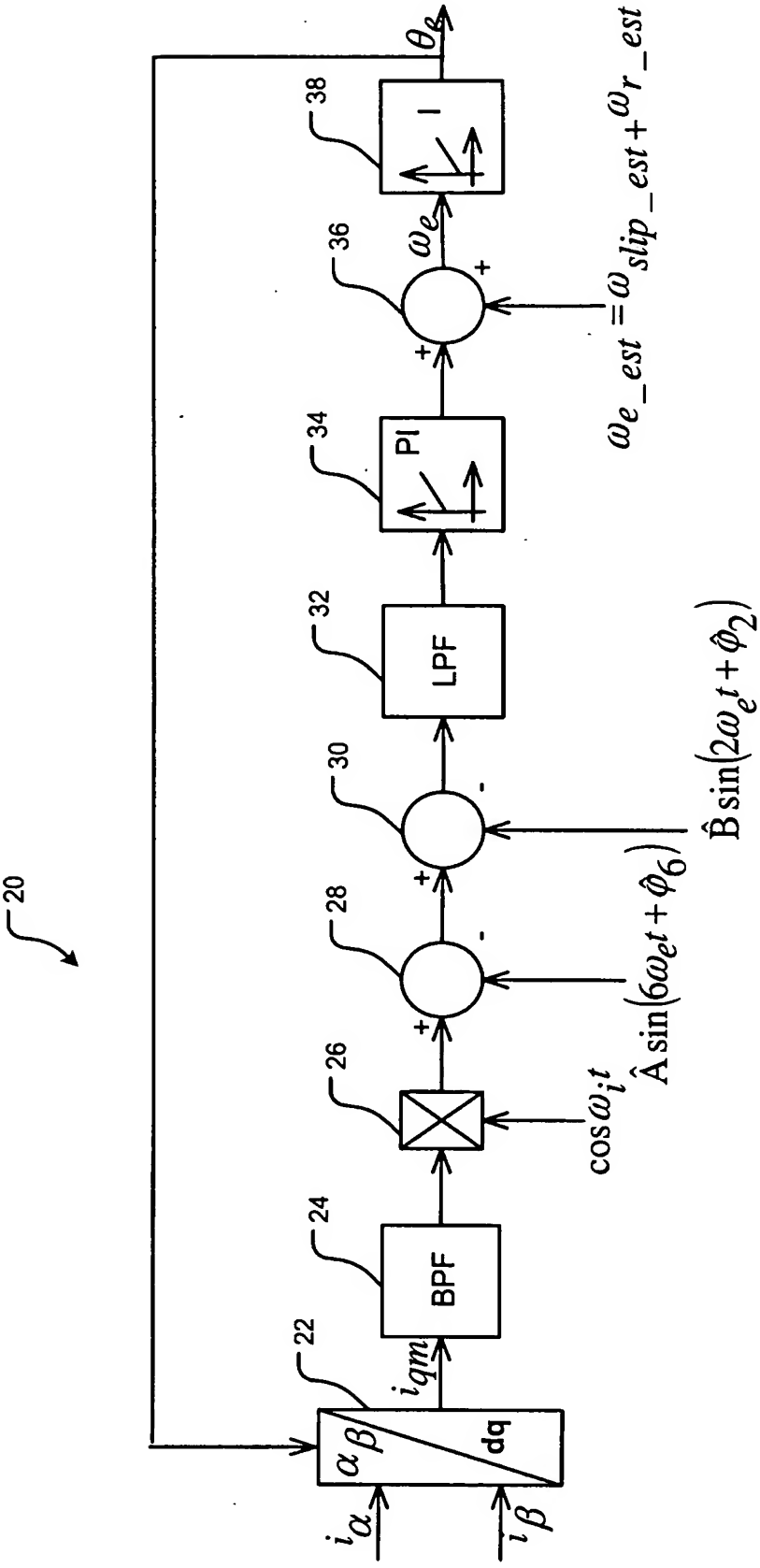

FIG. 1
(Prior Art)

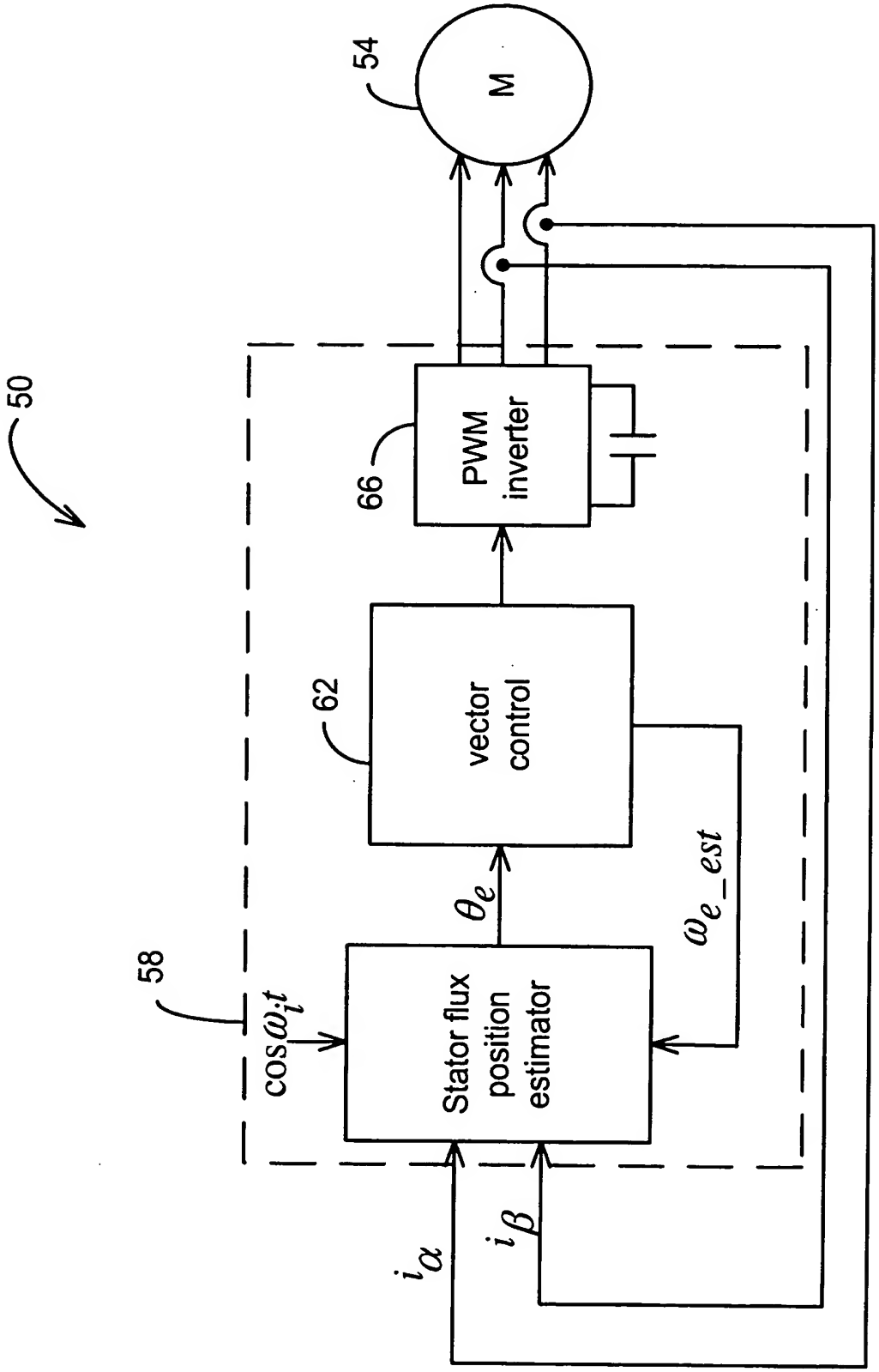
50
54
M
66
PWM inverter
62
vector control
58
Stator flux position estimator
$\cos\omega_i t$
θ_e
ω_{e_est}
i_α
i_β

FIG. 2

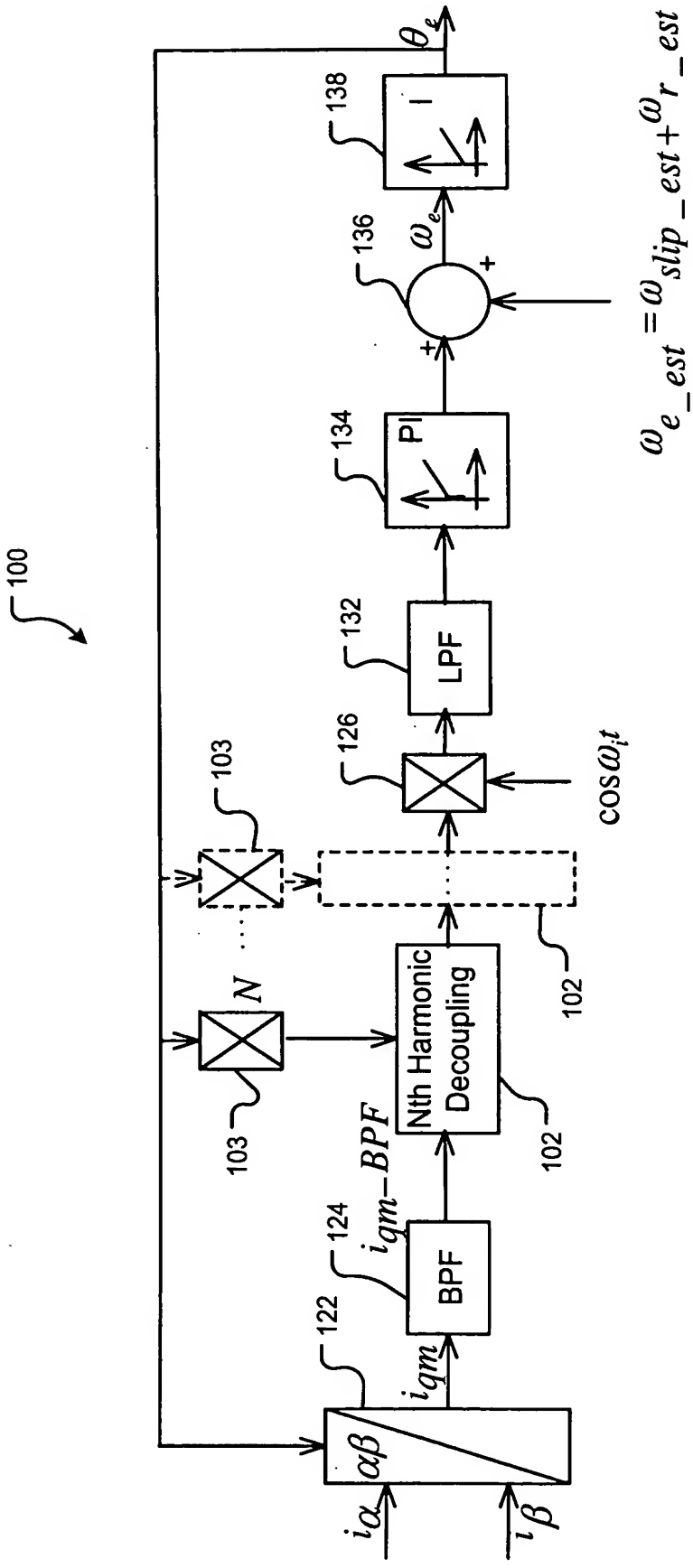
100
θ_e
138
I
ω_e
136
+
+
$\omega_{e_est} = \omega_{slip_est} + \omega_{r_est}$
134
PI
132
LPF
126
$\cos\omega_i t$
103
N
103
102
Nth Harmonic Decoupling
102
i_{qm_BPF}
124
BPF
122
i_{qm}
$\alpha\beta$
i_α
i_β

FIG. 3

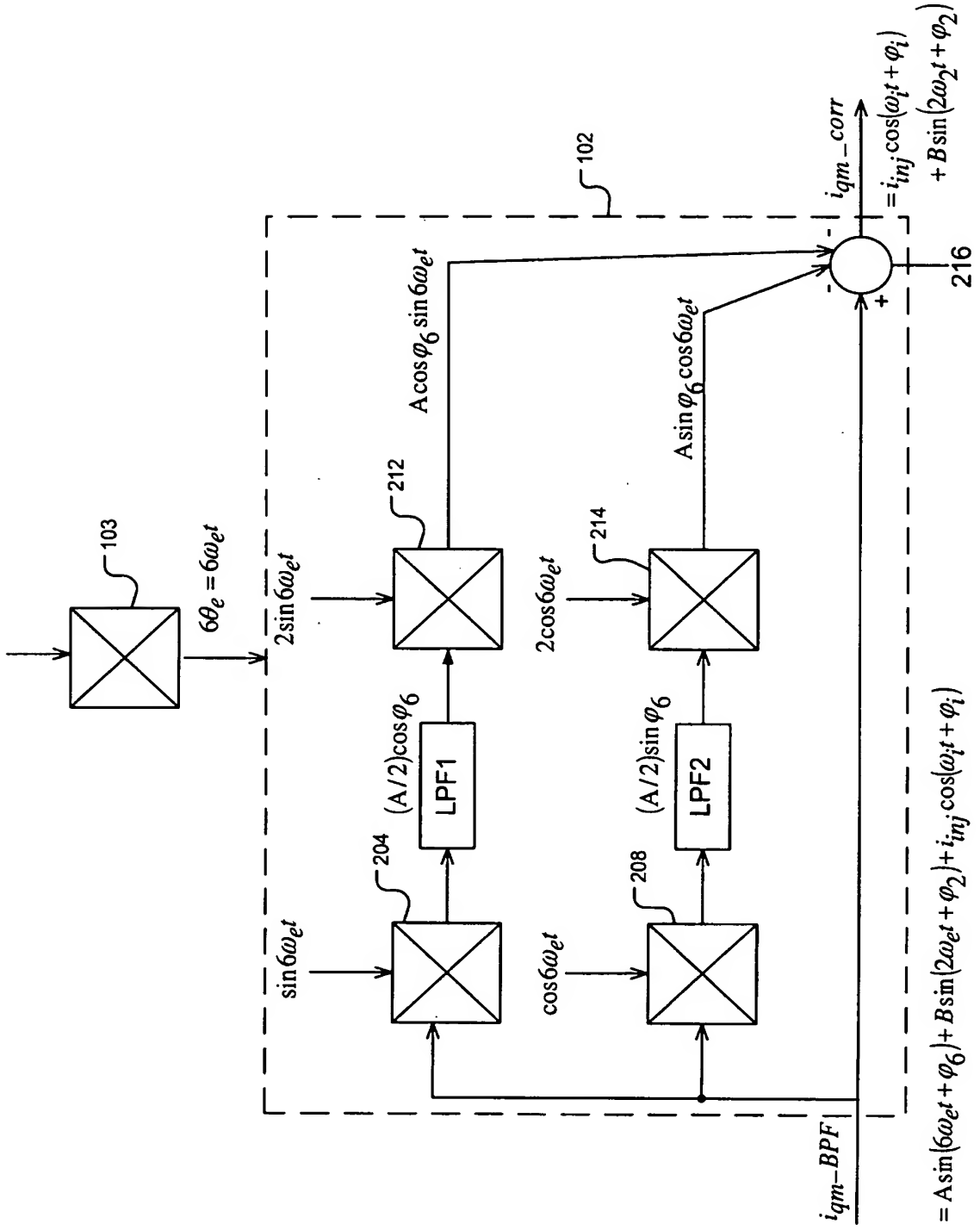
103
$6\theta_e = 6\omega_e t$
102
$2\sin 6\omega_e t$
$2\cos 6\omega_e t$
212
214
$A\cos\varphi_6 \sin 6\omega_e t$
$A\sin\varphi_6 \cos 6\omega_e t$
$(A/2)\cos\varphi_6$
$(A/2)\sin\varphi_6$
LPF1
LPF2
204
208
$\sin 6\omega_e t$
$\cos 6\omega_e t$
i_{qm_corr}
$= i_{inj} \cdot \cos(\omega_i t + \varphi_i)$
$+ B\sin(2\omega_2 t + \varphi_2)$
216
i_{qm_BPF}
$= A\sin(6\omega_e t + \varphi_6) + B\sin(2\omega_e t + \varphi_2) + i_{inj} \cdot \cos(\omega_i t + \varphi_i)$

FIG. 4